

Alice Wilson

Some people are late bloomers. Some are slowed in their progress due to illness and battle serious illness throughout their life. Some scientists only pursue science a little later in life. Some experience all three. Alice Wilson did not at first study geologist, and once a geologist her employer hindered her advance, as a woman, at every stage. Nevertheless, she persisted and made her greatest achievements later and took the greatest pleasure in her career after her retirement! Her extraordinary tenacity and glorious success late in life is such a satisfying story.

Geologist and paleontologist Alice Wilson (1881-1964) was outdoorsy as a girl. Her family spent its summers canoeing, camping and collecting fossils in the limestone formations near their home in Coburg, Ontario. The Wilsons valued scholarship and science. Her father was a professor of classics at the University of Toronto. She went to the University of Toronto to study modern languages and history, as preparation for one of the few career options for women: teaching. But her ill health prevented her from finishing her degree and she withdrew in her final year. When she recovered, she decided to pursue her fossil collecting first love, got a job in the Mineralogy Division of the University of Toronto Museum, and found an entry into her career in geology.

Then in 1909 she got a job as a museum assistant with the Geological Survey of Canada (GSC), in Ottawa, where she would work until 1946 and then maintain an office as an emeritus scientist until shortly before her death in 1964. She was supervised by the GSC's chief paleontologist Percy Raymond and catalogued and labeled the invertebrate paleontology collections. Raymond encouraged her to complete her undergraduate degree, which she succeeded in doing in 1911, after which she was offered a permanent position with the survey - the first woman to hold a professional position there. Alice Wilson became the first female geologist in Canada, facing a series of roadblocks due to her sex. She had to fight for the right to do fieldwork, arguing to superiors that "with reference to further field work of the more strenuous type, I would like to point out that while not heavily built, I am muscularly very strong, and from earliest childhood have been accustomed to an out-of-door life both with canoe and tramping." Since she was forbidden to stay in remote field sites with male colleagues, she made a case that she could work alone during day trips which she made on foot or bicycle. Denied access to a government field vehicle provided to men she later used her own car. The GSC otherwise barred women from fieldwork until 1970.

Her research interests focused on fossil invertebrates from the Paleozoic era (252–541 million years ago) from across Canada, and from the Ordovician era (444–485 million years ago) in her own backyard in Ontario and Quebec as well as Ordovician fauna from the Rockies and Arctic. She studied stratigraphy in Ontario and Quebec. Over the course of 50 years, she became an authority on fossils and rocks of the Ottawa - St. Lawrence Valley, as a direct response to the sexist limitations placed upon her. Her studies of the geology and paleontology around Cornwall, Ontario were vital to the construction of the St. Lawrence Seaway. She covered more than 16,000 square kilometers despite ill health, frail constitution and the limitations placed upon her.

She fought from 1915 for a decade for the right to take an education leave; paid leave was commonly awarded to her male peers. Despite repeated denials, she persisted and in 1926 she was allowed to apply for a scholarship from the Canadian Federation of University Women (CFUW), but when it was granted to her, she was again denied leave. CFUW campaigned on her behalf, even petitioning Cabinet members and eventually the GSC relented and allowed her leave. She earned her doctorate from the University of Chicago in 1929 at age 49! She returned to the GSC and was repeatedly denied promotions or the professional recognition she deserved. She had only been promoted from clerk to assistant paleontologist in 1919, and then to assistant geologist in 1926. She did not receive a raise, as was common practice, after completing her doctorate.

Perhaps an unexpected champion, the government of Prime Minister R. B. Bennett was seeking a female federal civil servant to honour in 1935 and selected Wilson to become a Member of the Order of the British Empire. One suspects the GSC was shamed into action as they rapidly published her research for the first time in 10 years and gave her a promotion. Wilson became first the female Canadian Fellow of the Geological Society of America in 1936, and first female Fellow of the Royal Society of Canada in 1938. She finally was promoted from assistant to a full geologist position in 1940. By 1945, she finally was addressed by the well-earned title "Dr." Five people were hired to replace her upon her retirement!

Following compulsory retirement at age 65, in 1946, she had what she thought of as the happiest stage of her career. She was afforded the opportunity to mentor protégés and share her love of geology with students and children. She taught paleontology at Carleton, wrote a children's book about geology, *The Earth*

Beneath Our Feet. She maintained an office as emeritus scientist at the GSC until she was 82, visiting daily and continuing her fieldwork. She published more than 50 academic papers throughout her career. When she finally gave up her office, the survey's director James M. Harrison tried to dissuade her, but she told him that her "work was done." Alice Wilson is one of only 60 inductees in the Canadian Science and Engineering Hall of Fame. Alice Wilson is now a designated national historic person.

I've shown her with one of her geological maps of the Ottawa region, published at the official "end" of her career just before she retired, which was for her another beginning. Her publication in 1946, '*Geology of the Ottawa - St. Lawrence Lowland, Ontario and Quebec*' was the first the first major geological publication about the region and we owe our knowledge of the area's geology and economic resources including building stone, sand, gravel, and drinking water to Wilson.